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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,595	07/20/2000	Takanobu Takeuchi	194630US2	3689
22850	7590	01/12/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LAO, LUN S	
			ART UNIT	PAPER NUMBER
			2643	
DATE MAILED: 01/12/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/620,595	TAKEUCHI, TAKANOBU	
	<b>Examiner</b>	<b>Art Unit</b>	
	Lun-See Lao	2643	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Introduction*

1. This action response to the amendment filed on 07-08-2004. Claims 1 and 4 have been amended and claims 7-15 have been withdrawn. Claims 1-6 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Seligson (US PAT. 3,116,366).

Consider claim 1 Seligson teaches an electret (see fig.1, 10) capacitor having first and second electrodes;

an amplifier (11) with which voltage generated between said first and second electrodes of said electret capacitor (10) is amplified and then outputted; and

an external capacitor (15) having a first electrode to which an output of said amplifier (11) is applied, and a second electrode connected to said first electrode of said electret capacitor off ground (see col.2 line 66-col.3 line 2).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seligson (US PAT 3,116,366) in view of Papopoulos (US PAT. 6,681,020).

Consider claim 2 Seligson teaches the microphone unit of the amplifier comprises:

a first transistor (see fig.1, 11 (amplifier)) having a first current electrode, a second current electrode (10) connected to said second electrode of said electret capacitor (10), and a control electrode connected to said first electrode of said electret capacitor; a current source connected to said first current electrode of said first transistor (11 (amplifier)) (see col.2 line 38-col.3 line 50); but Seligson fails to teach an inverting amplifier having an input terminal connected to said first current electrode of said first transistor.

However, Papopoulos teaches an inverting amplifier (see fig.3b, (R38 and 370)) having an input terminal connected to said first current electrode of said first transistor (362)(see col.6 lines 8-28) for the purposes of preventing misinterpretation to inhibit attempts by the software to increase microphone sensitivity.

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Papopoulos into Seligson to provide for the purposes mentioned above.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seligson (US PAT 3,116,366) as modified by Popopoulos (US PAT. 6,681,020) as applied to claims 1-2 above, and further in view of Weber (US PAT 4,491,972).

Consider claim 3, Seligson teaches that the microphone unit of the amplifier comprises:

a first resistor (see fig.1, 16) having a first terminal connected to said first current electrode of said first transistor (11, (amplifier)), and a second terminal; but Seligson fails to teach first operational amplifier having a negative input terminal connected to said second terminal of said first resistor, a positive input terminal to which a first fixed potential is applied, and an output terminal; and a second resistor having a first terminal connected to said negative input terminal of said first operational amplifier, and a second terminal connected to said output terminal of said first operational amplifier.

However, Weber teaches first operational amplifier(see fig.1,160) having a negative input terminal connected to said second terminal of said first resistor (162), a positive input terminal to which a first fixed potential (+V) is applied, and an output terminal (see col.3 lines 17-43); and

a second resistor (161) having a first terminal connected to said negative input terminal of said first operational amplifier (160), and a second terminal connected to said output terminal of said first operational amplifier (160 and see col.3 lines 17-43).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Weber into the teaching of Seligson and Papopoulos to improved an audio signal amplifier.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seligson (US PAT 3,116,366) as modified by Papopoulos (US PAT. 6,681,020) as applied to claims 1-2 above, and further in view of Takada (US PAT 4,255,716).

Consider claim 4 Seligson and Weber do not clearly teach the microphone unit of current source comprises:

a second transistor having a first current electrode to which a first fixed potential is applied, a second current electrode connected to said first current electrode of said first transistor, and a control electrode to which a second fixed potential is applied.

However, Takada teaches the microphone unit of current source is a second transistor (see fig.2, 24) having a first current electrode to which a second fixed potential (-Vcc) is applied, a second current electrode connected to said first current electrode of said first transistor (23), and a control electrode to which a second fixed potential (ground) is applied (see col.2 line 29-57).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Takada into the teaching of Seligson and Papopoulos to provide an automatic gain control circuit the output signal of which is small in distortion (see (716) col.1 lines 49-52).

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seligson (US PAT 3,116,366) as modified by Papopoulos (US PAT. 6,681,020) as applied to claims 1-2 above, and further in view of Van Der Plaats (US PAT 3,810,032).

Consider claim 5 Seligson and Weber do not clearly teach that the microphone unit of the amplifier further comprises a voltage follower having an input terminal connected to said first current electrode of said first transistor, and an output terminal connected to said input terminal of said inverting amplifier.

However, Van Der teaches that the microphone unit of the amplifier further comprises a voltage follower (see fig.1, (18-19) having an input terminal connected to said first current electrode of said first transistor (see fig.1,13), and an output terminal connected to said input terminal of said inverting amplifier (26, inverting amplifier signal, one goes to resistor 28 and other goes to transistor 31) and see col.2 line 10-col.3 line 62).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Van Der into the teaching of Seligson and Papopoulos to provide an amplifier stage being controlled by the control current and whose amplification within the control range is a monotonically decreasing function of the supply current (see (032) col.1 line 54-65).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seligson (US PAT 3,116,366) as modified by Papopoulos (US PAT. 6,681,020) as applied to claims 1-2 above, and further in view of Akino (US PAT 6,453,048).

Consider claim 6 Seligson and Papopoulos do not clearly teach the microphone unit of further comprising:

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a first diode having a cathode and an anode connected to said first and second electrodes of said electret capacitor, respectively;

a second diode having an anode and a cathode connected to said first and second electrodes of said electret capacitor, respectively; and

a third resistor connected in parallel with said electret capacitor.

However, Akino teaches the microphone unit of further comprising:

a first diode (see fig.1,1A) having a cathode and an anode connected to said first and second electrodes of said electret capacitor (102), respectively;

a second diode (1B) having an anode and a cathode connected to said first and second electrodes of said electret capacitor (102), respectively; and

a third resistor (1C,3) connected in parallel with said electret capacitor (102 and see col.4 line 55-col.5 line 20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Akino into the teaching of Seligson and Papopoulos to improved an impedance converter for a condenser microphone, in which an input voice signal from a condenser microphone portion through an input terminal can be impressed at a sufficient impedance to a grid of an amplifier tube with a mutual conductance and a sufficient voice signal can be taken out of a plate without a hum noise affected from a cathode (see (048) col. 2 lines 55-63).



***Response to Amendment***

10. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bloomfield (US PAT. 4,731,849) is cited to show other related to the microphone unit.

13. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (703) 305-2259. The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao, Lun-See  
Patent Examiner  
US Patent and Trademark Office  
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DUC NGUYEN  
PRIMARY EXAMINER